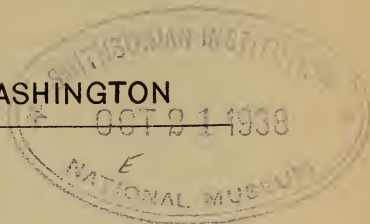


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STATUS OF THE ORIENTAL FISH GENERA  
APLOCHEILUS AND PANCHAX.

BY HUGH M. SMITH.

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An unfortunate situation exists in regard to the availability of two generic names, *Aplocheilus* and *Panchax*, which have long been associated with cyprinodont fishes of Africa, Asia, and the Indo-Australian Archipelago. It appears that neither of these names may be employed in accordance with recent usage, if the recognized rules of zoological nomenclature are to be followed.

The genus *Aplocheilus* was established by McClelland (Indian Cyprinidae, 1839), with three species listed thereunder: *chrysostigmus* (new), *melastigmus* (new), and *panchax*, first described as *Esox panchax* by Hamilton-Buchanan (Fishes of the River Ganges, 1822). As the genus was composite and McClelland indicated no genotype, the way was opened for subsequent misunderstanding and confusion.

In 1846 Cuvier and Valenciennes (Histoire Naturelle des Poissons), ignoring McClelland's *Aplocheilus*, created the genus *Panchax* and placed in it four species, including Hamilton-Buchanan's *Esox panchax*, which they renamed *Panchax buchanani*, together with *Panchax pictum*, which is a spiny-rayed fish of the genus *Betta*.

While Günther (Catalogue of Fishes in British Museum, vol. 6, 1866) and Day (Fishes of India, 1878) considered all the fishes that had been placed in *Aplocheilus* and *Panchax* as belonging in a single genus (*Aplocheilus*), as a matter of fact two very distinct genera are involved and, as Myers has indicated (The Primary Groups of Oviparous Cyprinodont Fishes, 1931), these genera belong in different tribes of the subfamily Fundulinae.

The designation of a type species in *Aplocheilus* appears to have been first made in 1863 when Bleeker (Atlas Ichthyologique, III), in a synopsis of the genera of cyprinodontoid fishes, named *Aplocheilus chrysostigmus* McClelland as the type. This action was cited by Jordan (Genera of Fishes, II, 1919). Other published opinions of Bleeker indicate that what he did in this case was directly opposite to what he intended to do, for

*chrysostrigmus* is a synonym of *panchax* which Bleeker, in the same synopsis, included in the genus *Panchax*. Weber and de Beaufort (Fishes of the Indo-Australian Archipelago, IV, 1922), Ahl (Zur Systematik der altweltlichen Zahnkarpfen der Unterfamilie Fundulinae, 1924), and various other recent students of these fishes have stated or assumed that *Aplocheilus melastigmus* McClelland is the type of the genus, but Bleeker's designation necessarily takes precedence. Regan (The Osteology and Classification of the Teleostean Fishes of the Order Microcyprini, 1911) stated that Bleeker "definitely restricted" *Aplocheilus* to the *melastigmus* group, but I have been unable to find any reference which would confirm Regan's statement.

From the foregoing it would appear that the name *Aplocheilus* must be associated with *panchax* and other species characterized by the possession of protractile premaxillaries, jaw teeth in broad bands, vomerine teeth, and pseudobranchiae; that *Panchax* is a synonym of *Aplocheilus*; and that fishes of the *melastigmus* group, characterized by non-protractile premaxillaries, jaw teeth in a single row or a narrow pluriserial band, a small group of enlarged teeth at the outer ends of the premaxillaries, no vomerine teeth, and no pseudobranchiae, are without an available generic name unless *Oryzias* should prove applicable.

The genus *Oryzias* was established by Jordan and Snyder (A Review of the Poeciliidae or Killifishes of Japan, 1906) for *Poecilia latipes* Schlegel, a fish of the rice fields of Japan. Bleeker, Günther, and others referred the species to *Aplocheilus*. Jordan and Snyder wrote: "This genus differs from *Aplocheilus* (= *Panchax*) of India in the short jaws and in the absence of teeth on the vomer." Weber and de Beaufort (l.c.) and Regan (l.c.) considered *Oryzias* a synonym of *Aplocheilus*. Ahl (l.c.), however, regarded *Oryzias* as a distinct genus, separable from *Aplocheilus* by the absence of a set of enlarged teeth at the outer sides of the premaxillaries. These teeth in *Aplocheilus melastigmus* have been described and figured by B. Sundara Raj (Notes on the Fresh-water Fish of Madras, Records of the India Museum, XII, 1916, 266, pl. XXV) who has shown that in the male there are four coarse teeth on each side, while in the female the premaxillary "is drawn out into a bifid tooth."

Published descriptions of the teeth in *Oryzias* make no reference to the existence of enlarged teeth at the outer end of the premaxillaries. In the original definition of the genus, Jordan and Snyder said: "mouth small, with 2 rows of small, simple, pointed teeth." As a matter of fact, however, there is in *Oryzias latipes*, at the outer end of the premaxillaries, an enlarged group of teeth, similar to those that have been found in *melastigmus* and various related species of Siam, Indo-Australian Archipelago, and Philippines, all of which should apparently now be included in *Oryzias*.

In offering the foregoing observations and conclusions, I have had the benefit of the views of Dr. Carl L. Hubbs, Dr. George S. Myers, and Dr. Leonard P. Schultz, to whom grateful acknowledgment is made.